

REMARKS

Applicants thank the Examiner for the consideration given the present application.

Applicants respectfully request the Examiner to enter this Amendment. The basis therefore is several-fold: (1) the total number of claims presented has been reduced, since claims 6-9 are canceled without prejudice; (2) the issues are simplified, since method claims are presented; (3) there are no new issues; and, for example, (4) there is no new matter.

Since claims 1 and 8 have been considered previously, combining claim 1 and claim 8 presents no new issue and no new matter as amended claim 1 finds basis in former method claim 8. Dependent claims 2-5 are amended to refer to the method. Claims 6-9 are canceled. Former method claim 9 is replaced by amended claim 5. Claims 10-14 are amended to refer to the method of amended claim 1.

Applicants have considered the gerund "applying" and acknowledge the Examiner's constructive suggestion. Applicants have accordingly amended claim 1 to refer to "inactivating by applying...". This language finds support in the specification throughout, and attention is respectfully invited to page 1 (opening paragraph), page 3 (penultimate paragraph), page 4, line 8 ("inactivating..."); page 10, lines 11-22; pages 11-14; page 15 to page 16, line 12; page 6 (production example) through page 17, line 20 (industrial

applicability), by way of examples. It is consistent with incorporating the anti-coronaviral agent in a product, applying it to a product, or applying it directly as in the example(s).

Applicants traverse and request reconsideration of the rejections under 35 U.S.C. §112, first and second paragraphs. The claims are supported by an enabling specification. As to claims 8 and 9, now claims 1 and 5, attention is invited to the specification as mentioned hereinabove, such as at pages 10-17, line 20, as an example.¹

The method claims are unobvious

Applicants traverse and request reconsideration of the rejection of claims 8 and 9, now amended claims 1 and 5, under 35 U.S.C. §103 over U.S. 6,187,456 to Lever as in view of the Rentz article.

As noted in the Office Action, Lever describes an antimicrobial agent comprising a silver ion carrier such as silver zirconium

¹Applicants point out they are not required to test each and every single "anti-coronaviral agent" or each and every "product" to which the agent may be "applied" in order to meet Section 112(1) requirements. The Court having review over the PTO concurs with Applicants' position, and it explained, "The question, then, is whether in an unpredictable art, section 112 requires disclosure of a test with every species covered by a claim. To require such a complete disclosure would apparently necessitate a patent application or applications with 'thousands' n2 [footnote omitted] of examples or the disclosure of 'thousands' of catalysts along with information as to whether each exhibits catalytic behavior resulting in the production of hydroperoxides. More importantly, such a requirement would force an inventor seeking adequate patent protection to carry out a prohibitive number of actual experiments. This would tend to discourage inventors from filing patent applications in an unpredictable area since the patent claims would have to be limited to those embodiments which are expressly disclosed. A potential infringer could readily avoid 'literal' infringement of such claims by merely finding another analogous catalyst complex which could be used in 'forming hydroperoxides.'" *In re Angstadt*, 190 U.S.P.Q. 214 (CCPA 1976).

phosphate, but fails to disclose a silver ion carrier having an anti-coronaviral effect such as the anti-SARS effect set forth in Applicants' claims 8 and 9 (now claims 1 and 5). "Lever does not teach inactivation of a coronavirus or SARS through contact with the anti-coronaviral agent as claimed in claims 8 and 9." Office Action, page 7.

It appears the rejection rests on an assertion that the antimicrobial effects of the Lever compound will necessarily have anti-coronaviral effects, specifically, an anti-SARS effect as evidenced by Rentz.

Applicants submit the foregoing thesis advanced in the Office Action is misplaced and courteously request it be favorably reconsidered and withdrawn.

Applicants point out inherency, which underlies the thesis for the rejection in the Office Action, requires inevitability, not probability, not possibility, not speculation, not guesswork.

Rentz does **not** provide the certainty, inevitability, required under Section 102 or even Section 103.²

² *Ex parte Whelan*, 89 U.S.P.Q.2d 1078 (BOAPI 2008), copy attached; and see also *Ex parte General Electric Company*, Appeal No. 2008-0094, Slip Op. at pages 6-7, (BPAI, Feb. 28, 2008). This follows because inherency of an advantage, and its obviousness, are two different concepts; the former is not the latter. *In re Spormann*, 150 U.S.P.Q. 449, 450 (CCPA 1972).

Action, Rentz does **not** support a thesis that Lever's alleged teachings would necessarily, inherently, lead to the efficacy postulated in the Office Actions(s). Indeed, Rentz implicitly reports that anti-viral properties are not reasonably predictable, since they vary greatly ("outcomes varied widely" (page 112)). Rentz states that silver salt and/or inferior silver preparations lack the bioavailability, active silver content, and safety needed to be effective. Rentz, Abstract. Rentz states, for example, that the "silver nitrate, silver sulfadiazine and electrolytically produced Ag^+ all had different antiviral properties" as seen on page 112, eight and ninth lines from the bottom of the page 112. Rentz apparently does not even refer to silver zirconium phosphate. Rentz also concludes that "in general, silver salts have difficulty achieving biologically meaningful concentrations of Ag^+ ." (page 113). Thus, even taking Rentz into account, one skilled in the art would not have expected an anti-coronaviral effect from a silver ion carrier such as silver zirconium phosphate, which is different from silver nitrate, silver sulfadiazine, and electrolytically produced Ag^+ .

The Office Actions contend Rentz refers to SARS in relation to electrolytically produced Ag^+ at page 113, fifth line from the bottom of the page, through page 114, fourth line from the bottom of the page.

However, it is conventionally understood that the bactericidal activity of the silver zirconium phosphate is not derived from silver

ions, but rather from superoxide or hydrogen peroxide formed by certain photochemical reactions catalyzed by the silver zirconium phosphate.

In the just-mentioned regards, Applicants courteously submit the final Office Action at page 10, lines 1 and 2, mistakenly misconstrues the Kourai article and the reason for its citation. Attention is respectfully directed to the article by Kourai et al. (*Journal of Antibacterial Antifungal Agents*, Vol. 22, No. 10, 1994, pp. 595-601), a copy of which accompanied the prior Amendment. For instance, the Kourai article is titled "... Bacterial Action...", not anti-viral, which would undercut the thesis for the rejections. Applicants additionally invite attention to the Abstract and Conclusions on pages 595 and 601.

Silver zirconium phosphate is a powdery substance that is different from electrolytically produced Ag^+ and other Ag -ion containing solutions disclosed by Rentz. Since Rentz recognized results (properties) widely vary, there would have been no reasonable expectation of success even if Rentz were combined with Lever.

In addition, the silver zirconium phosphate used in the presently claimed invention has nothing to do with the oligodynamic effect of electrolytically produced Ag^+ described in the Kourai article.

Accordingly, Applicants respectfully submit Lever would not have been combined with Rentz, and furthermore, even if the references were combined, their claims would have been unobvious over the combination of references.

In view of the foregoing amendments and remarks, Applicants believe their claims 1-5 and 10-14 define novel and unobvious inventions over the Lever and Rentz references, and withdrawal of the outstanding rejections is respectfully requested. The present application is in condition for allowance, and such action is requested.

To the extent necessary during prosecution, Applicants hereby request any required extension of time not otherwise requested and hereby authorize the Commissioner to charge any required fees not intentionally omitted, including application processing, extension, extra claims, statutory disclaimer, issue, and publication fees, to Deposit Account No. 06-1135, regarding our Order No. 7378/88121.

Respectfully submitted,

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